From:	PETERSON Jenn L
To:	BAYUK Dana
Cc:	Eric Blischke/R10/USEPA/US@EPA; Chip Humphrey/R10/USEPA/US@EPA
Subject:	GASCO AIR comments
Date:	08/11/2010 04:17 PM

Dana,

I did my best with this. See if you can make sense of it and I will check e-mail tomorrow for revisions.

Jennifer

General Comments:

1. The red-lined copy appears to have added additional text to several sections of the report that went beyond response to comment. One example of this is Section 3.1.1.1 where the text now reads that "the following sections present the EPA reviewed screening levels by media type". Instead, the text should indicate there were comments on the screening levels that have not been resolved - some of which will be deferred until comments on the in-water screening values are complete. As indicated below, I don't agree the proper interpretation of the bioassay tests should be deferred. Other examples exist as well, and the document should be reviewed for new content. Please see new text in Section 3.

2. Comments on the interpretation of empirical bioassay results were also deferred and dropped in the Final AIR. This evaluation should not be omitted or deferred from this analysis. Empirical bioassay tests results should be used as one of the primary lines of evidence, and appropriate thresholds, submitted in the previous round of comments should be used for hit / no hit interpretation at different threshold levels. All bioassay endpoints should be used for this evaluation.

Specific Comments:

Page 13, Section 3: The text states "*because the results of the revised data screening will not affect delineation of the proposed initial Project Area and data gaps sampling, EPA also approved submittal of this Final AIR and the attached Data Gaps QAPP (Appendix A) without revision to the existing data screening*." This statement may not be true, since although the AIR line remains the same, the criteria for use in refining the area are now removed. Major lines of evidence have been removed from the AIR identification including the evaluation of transition zone water, surface water, and the results of the empirical bioassay toxicity tests.

Section 3, Page 13: The text states "*in addition, because EPA is requiring submittal of this revised Final AIR ("Table 1: Schedule of Project Deliverables from the SOW does not require this submittal), NW Natural has revised subsection 3.1.3.2 and Figure 5 to include delineation of the initial Project*

Area using the March 24, 2010, Focused PRG List (attached as Appendix B to this Final AIR) transmitted in EPA's April 21, 2010, letter to the LWG."

Bioassay test results, and transition zone water and surface water exceedences need to be added to Figure 5, as well as the lines of evidence removed from the original figure (Figure 3-2).

Page 27, Section 3.1.3.2, Portland Harbor Key Lines of Evidence: There is text removed here on how EPA identified preliminary AOPCs in the FS (Rules 1-4), and strong language has been added that all they will be using to delineate the GASCO AIR is the focused PRG list dated March 24, 2010, presented in Appendix B. EPA's April 21, 2010 letter identified additional lines and approaches that needed to be included in addition to the focused PRG list as follows:

EPA's primary goals for evaluation of benthic risk in the FS include the following:

- Define areas that pose unacceptable risk to the benthic community
- Define the areas and volume of contamination that may pose risk to the benthic community
- Evaluate remedial action alternatives and effectiveness (did it meet the RAO)

Guidelines:

- All benthic SQGs in the March 24, 2010 list will be included in the analysis. If specific SQGs are found to be inconsistent with other LOEs listed below, EPA will review the analysis and determine whether these should be included in the draft FS.
- Sediment toxicity bioassays will form the primary LOE for this analysis. The sediment toxicity LOE will include level 2 (moderate) and level 3 (severe) effects for all four endpoints (chironomus biomass and mortality and Hyaella biomass and mortality).
- The analysis will consider the number and degree of exceedance of SQGs.
- The analysis will consider other LOEs such as TZW compared to ambient water quality criteria for the protection of aquatic life and benthic tissue TRVs.
- The analysis will consider the presence/absence of nearby sources and examine benthic community structure (e.g., via sediment profile imaging and related information).
- The analysis will consider data quality and data density issues for the SQGs.

3.1.1.2.4 Benthic Toxicity Reanalysis Technical Memorandum: The text states "*sediment quality guidelines (SQGs) from Table 17 of this AIR were used for data screening. The Benthic Toxicity Reanalysis Technical Memorandum (Windward 2009a) describes several procedures used to calculate these criteria, entitled: "EPA 2009 method," "Calcasieu BERA method," and "Draft BERA method." Table 17 lists criteria calculated using each method. The following conservative approach was used to select the Benthic Toxicity Reanalysis Technical Memorandum criteria used for data screening:*

- *Values for the low threshold are the "low threshold" value obtained using the "EPA 2009 method," as presented in Table 17*
- *Values for the high threshold are the "high threshold" value obtained using the BERA Procedure, except for zinc, where no number calculated through the "Draft BERA method" or "EPA 2009 method" is available and the "Calcasieu BERA method"-calculated number is used, as presented in Table 17*"

Table 17 is mentioned several times above, but is listed in the document as "LWG FS Design

Characterization SBLT Analytical Results", and not calculated benthic screening values). Benthic criteria should be taken from the EPA 2009 method, which have never been fully reported, as the Nov. 13, 2009 benthic toxicity re-analysis memo did not include the EPA 2009 method in its entirety. For example, the *Hyalella* biomass endpoint was not included. As response to identification of this problem, a four page memo entitled "Site Specific SQGs based on Individual Endpoints" was submitted April 2, 2010 but was also incomplete in chemical list (e.g. only an LPAH number given). However, comparing the EPA 2009 high threshold from this memo for LPAHs to the value presented in the *Benthic Re-analysis memo* shows considerable difference in SQGs. The high SQG based on all endpoints and the EPA 2009 memo was 1,600 ug/kg compared to 650,000 ug/kg GASCO selected from the *Benthic Re-analysis* memo. This project should be using the EPA 2009 criteria for all chemicals, and should move forward only with sediment criteria that represent the current state of in-water project. It is also important to note that appropriate EPA 2009 sediment criteria for HPAHs and Total PAHs (based on the FPM) have not been submitted by the LWG.

Page 26 , Section 3.1.2.1: The new text states "*EPA and LWG agree that the benthic risk areas will be mapped using an approach that considers multiple lines of evidence, including bioassay results, benthic SQGs in the March 24, 2010 Focused PRG list (Appendix B), and other lines of evidence. Currently, LWG and EPA do not agree on the methodology to be used in this approach. The benthic risk areas shown in this AIR only consider the benthic SQGs in the March 24, 2010, Focused PRG list (Appendix B) and therefore does not account for the remaining benthic risk lines of evidence. It is understood that the risk areas mapped solely based on these PRGs will be reevaluated following agreement on the methodology to be used to identify benthic risk areas. Any such revisions will be incorporated into the project EE/CA.*"
These statements clearly state that only PRGs, not other lines such as the results of bioassay testing, or the evaluation of transition zone water, will be used in identifying the AIR. This was not the agreement from the conference call on the DRAFT AIR regarding screening criteria. It appears that NWN has instead of responding to comments the use of correct threshold interpretations for bioassay testing has dropped this line of evidence altogether for the AIR identification (in addition to SW and TZW lines of evidence).

Section 3.2: The text states "*The results for benthic toxicity tests were compared to screening levels derived from Table 2-3 of the Benthic Toxicity Reanalysis Technical Memorandum (Windward 2009a). The Benthic Toxicity*
Reanalysis Technical Memorandum describes several procedures used to calculate these benthic toxicity thresholds, entitled: "EPA 2009 method," "Calcasieu BERA method," and "Draft BERA method." Table 2-3 of the Benthic Toxicity Reanalysis Technical Memorandum lists the thresholds calculated using each method. The following approach was used to select the Benthic Toxicity Reanalysis Technical Memorandum thresholds used for benthic toxicity data screening:
• Values for the REV and low thresholds are the "REV" and "low threshold" value obtained using the EPA 2009 method.
• Value for the high threshold is the "high threshold" value obtained using the Draft BERA method. "

The EPA 2009 low thresholds presented here exclude the *Hyalella* biomass endpoint. Table 1 presents the sediment SQGs based on the high threshold from the DRAFT BERA method. DEQ commented previously that these were not appropriate.

Section 4.5, Page 47 The text states "*LWG and EPA have agreed to identify benthic risk using a multiple lines of evidence approach that emphasizes bioassay results as the primary and most important line of evidence. Exceedances of the March 24, 2010, Focused PRGs (Appendix B) for benthic risk (benthic SQGs) were generally used to identify the initial Project Area for this AIR. NW Natural and Siltronic are currently using this initial Project Area, which generally encompasses larger, broader SQG map areas in the navigation channel; however, the Project Area will be revised accordingly when the additional lines of evidence are selected and existing data in affected areas are evaluated against those lines. Additional data gap sampling may be warranted if it is determined that collection of additional data for selected lines of evidence will assist remedial alternative selection in the EE/CA or design process. Examples of potential future data collection for this purpose are additional bioassays and surface chemistry data in certain areas to verify the presence or absence of benthic risk.*"
This text is confusing, but taken with text above in other sections, I can only conclude that the area will be reduced from Figure 5 to only include areas meeting the substantial product definition and March 4, 2010 PRGs.

3.1.1.3 Subsurface Sediment Screening Process: "*For the purpose of defining the depth of screening level exceedances for this chemical in the initial Project Area, a screening value of three times the PRG for PCB-126 is used. These subsurface sediment screening levels are summarized in Table 10.*"
They were asked to justify the use of 3x the PRG, and no response to comment is provided.